

I. LISTING OF PENDING CLAIMS:

1-76. (Cancelled)

77. (Currently Amended) A combination of a chemical mechanical polishing composition in contact with ~~for polishing~~ a substrate surface having at least one feature thereon comprising a noble metal, said ~~composition~~ combination comprising:

a) a substrate comprising submicron integrated circuits and having a surface having at least one feature thereon comprising a noble metal, said substrate surface contacting a chemical mechanical polishing composition comprising;

a) ~~b)~~ periodic acid in an amount from about 0.05 to about 0.3 moles/kilogram and
~~b) ~~c)~~ an abrasive; and~~
~~c) a suspension agent selected from a group consisting of ethyl carbonate, aluminum oxide ~~c~~, a hydrous sodium lithium magnesium silicate ammonium and polymethacrylate;~~
wherein said periodic acid and said abrasive are present in a combined amount sufficient to render the substrate surface substantially planar and to maintain a polishing rate of between 300 Angstroms per minute to about 2000 Angstroms per minute upon chemical-mechanical polishing thereof.

78. (Currently Amended) The ~~composition~~ combination of claim 77, wherein the periodic acid is present in an amount from about 0.075 to about 0.3 moles/kilogram.

79. (Currently Amended) The ~~composition~~ combination of claim 77, wherein the periodic acid is present in an amount from about 0.075 to about 0.175 moles/kilogram.

80. (Currently Amended) The ~~composition~~ combination of claim 77, wherein the abrasive is present in an amount from about 0.2 to about 6 weight percent.

81. (Currently Amended) The ~~composition~~ combination of claim 77, wherein the abrasive is present in an amount from about 0.2 to about 4 weight percent.

82. (Currently Amended) The ~~composition~~ combination of claim 77, further comprising a pH-adjusting agent, wherein the pH is from about pH 5 to about pH 10.

83. (Currently Amended) The ~~composition~~ combination of claim 77, further comprising a pH-adjusting agent, wherein the pH is from about pH 1 to about pH 4.

84. (Currently Amended) The ~~composition~~ combination of claim 83, wherein the composition consists essentially of water, periodic acid, an abrasive, and a pH-adjusting agent is selected from ~~[[a]]~~ the group consisting of a quaternary amine, an inorganic base, and any composition thereof.

85. (Currently Amended) The ~~composition~~ combination of claim 83, wherein the pH-adjusting agent comprises an agent selected from ~~[[a]]~~ the group consisting of tetramethylammonium hydroxide, ammonium hydroxide, potassium hydroxide, sodium hydroxide, and any composition thereof.

86. (Currently Amended) The ~~composition~~ combination of claim 77, further comprising a suspension agent.

87. (Currently Amended) The ~~composition~~ combination of claim 86, wherein the suspension agent comprises an agent is selected from ~~[[a]]~~ the group consisting of an organic acid, a surfactant, ~~another~~ a second abrasive, ammonium polymethacrylate, hydrous sodium lithium magnesium silicate, and ethyl carbonate.

88. (Currently Amended) The ~~composition~~ combination of claim 77, wherein the abrasive comprises an abrasive having a Mohs hardness number of greater than about 6.5.

89. (Currently Amended) The ~~composition~~ combination of claim 77, wherein the abrasive comprises an abrasive selected from the group consisting of alumina, silica, zirconia, spinel, zirconium nitride, and any combination thereof.

90. (Currently Amended) The ~~composition~~ combination of any one of claims 77 through 86, wherein the abrasive comprises alumina.

91. (Currently Amended) The ~~composition~~ combination of any one of claims 77 through 86, wherein the ~~feature~~ noble metal ~~comprises a material~~ is selected from the group consisting of Ir, IrO₂, Pt, and any composition thereof.

92. (Currently Amended) The ~~composition~~ combination of claim 77, wherein said combined amount is sufficient to provide the substrate surface with a wafer-within-wafer-nonuniformity (WWNU) of less than about 12% upon polishing of the substrate surface with the composition.

93. (Currently Amended) The ~~composition~~ combination of claim 77, wherein said combined amount is sufficient to provide the substrate surface with a wafer-to-wafer-nonuniformity (WTWNU) of less than about 5%.

94. (Currently Amended) A combination of a chemical mechanical polishing composition in contact with ~~for polishing~~ a substrate surface having at least one feature thereon comprising a noble metal ~~and a dielectric material~~ said ~~composition~~ combination comprising:

a) a substrate having a surface, wherein said surface comprises a dielectric material and has at least one feature thereon comprising a noble metal, and wherein said surface is contacting a composition comprising:

a) b) periodic acid in an amount from about 0.05 to about 0.3 moles/kilogram; and

b) c) an abrasive in an amount from about 0.2 to about 6 weight percent, said ~~composition~~ combination having a pH from above pH 5 to about pH 10;

~~e) a suspension agent selected from a group consisting of ethyl carbonate, aluminum oxide c, a hydrous sodium lithium magnesium silicate and polymethacrylate;~~

and wherein on polishing the substrate surface with the composition contacting the surface the selectivity of the composition for polishing the noble metal-containing material over polishing the dielectric material is at least 1:1.

95. (Currently Amended) The ~~composition~~ combination of claim 94, wherein the amount of periodic acid is from about 0.075 to about 0.3 moles/kilogram.

96. (Currently Amended) The ~~composition~~ combination of claim 94, wherein the amount of periodic acid is from about 0.075 to about 0.175 moles/kilogram

97. (Currently Amended) The ~~composition~~ combination of claim 94, wherein the amount of the abrasive is from about 0.2 to about 4 weight percent.

98. (Currently Amended) The ~~composition~~ combination of claim 94, wherein the pH is from about pH 6 to about pH 10.

99. (Currently Amended) The ~~composition~~ combination of claim 94, further comprising a pH-adjusting agent.

100. (Currently Amended) The ~~composition~~ combination of claim 99, wherein the pH-adjusting agent is selected from ~~[[a]]~~ the group consisting of a quaternary amine, an inorganic base, and any composition thereof.

101. (Currently Amended) The ~~composition~~ combination of claim 99, wherein the pH-adjusting agent comprises an agent selected from ~~[[a]]~~ the group consisting of tetramethylammonium hydroxide, ammonium hydroxide, potassium hydroxide, sodium hydroxide, and any combination thereof.

102. (Currently Amended) The ~~composition~~ combination of claim 94, further comprising a suspension agent.
103. (Currently Amended) The ~~composition~~ combination of claim 102, wherein the suspension agent comprises an agent selected from [[a]] the group consisting of an organic acid, a surfactant, ~~another~~ a second abrasive, ammonium polymethacrylate, hydrous sodium lithium magnesium silicate, and ethyl carbonate.
104. (Currently Amended) The ~~composition~~ combination of claim 94, wherein the abrasive comprises an abrasive having a Mohs hardness number of greater than about 6.5.
105. (Currently Amended) The ~~composition~~ combination of claim 94, wherein the abrasive comprises an abrasive selected from [[a]] the group consisting of alumina, silica, zirconia, spinel, zirconium nitride, and any composition thereof.
106. (Currently Amended) The ~~composition~~ combination of any one of claims 94 through 102, wherein the abrasive comprises alumina.
- 107 (Cancelled)
108. (Currently Amended) The ~~composition~~ combination of claim 94, wherein said composition provides the substrate surface with a wafer-to-wafer-nonuniformity (WTWNU) of less than about 5% upon chemical-mechanical polishing thereof.
109. (Currently Amended) The ~~composition~~ combination of claim 94 wherein the ~~feature~~ noble metal comprises Ir.
110. (Currently Amended) The ~~composition~~ combination of claim 94, wherein the feature comprises IrO₂.

111. (Currently Amended) The ~~composition~~ combination of claim 94, wherein the ~~feature~~ noble metal comprises platinum.

112. (Cancelled)

113. (Cancelled)

114. (Cancelled)

115. (Cancelled)

116. (Cancelled)

117. (Cancelled)

118. (Currently Amended) A combination of a composition for polishing in contact with a substrate surface having at least one feature thereon comprising a noble metal, the composition ~~eonsists~~ consisting essentially of:

1) water;

2) periodic acid in an amount from about 0.05 to about 0.3 moles/kilogram;

3) an ~~alumina~~ abrasive in an amount from about 0.2 to about 6 weight percent; and

4) ~~optionally~~ a pH-adjusting agent in an amount sufficient to cause the pH of the ~~slurry~~ composition to be between about 1 to about 4 or between about 5 to about 10; and

5) a suspension agent; and

6) a substrate surface having at least one feature thereon comprising a noble metal.

~~wherein the suspension agent is selected from a group consisting of ethyl carbonate, aluminum oxide-c, a hydrous sodium-lithium magnesium silicate ammonium and polymethacrylate.~~

119-129. (Cancelled)

130. (Currently Amended) The ~~composition~~ combination of claim 118, wherein the ~~feature~~ noble metal comprises Ir.

131. (Currently Amended) The ~~composition~~ combination of claim 118, wherein the feature noble metal comprises IrO₂.
132. (Currently Amended) The ~~composition~~ combination of claim 118, wherein the feature noble metal comprises platinum.
133. (Currently Amended) The ~~composition~~ combination of claim 118, wherein the feature noble metal comprises gold.
134. (Currently Amended) The ~~composition~~ combination of claim 118, wherein the feature noble metal comprises silver.
135. (Currently Amended) The ~~composition~~ combination of claim 118, wherein the ~~first~~ abrasive consists essentially of alpha-alumina.
136. (Currently Amended) The ~~composition~~ combination of claim 118, wherein the ~~first~~ abrasive consists essentially of gamma-alumina.
137. (Currently Amended) The ~~composition~~ combination of claim 118, wherein the ~~first~~ abrasive consists essentially of alpha-alumina and gamma-alumina.
138. (Currently Amended) The ~~composition~~ combination of claim 118, wherein the substrate further comprises a dielectric material, and wherein the selectivity of the composition for polishing the noble metal-containing material over polishing the dielectric material is at least 1:1.
139. (Cancelled)

140. (Currently Amended) The ~~composition~~ combination of claim 118 wherein the pH-adjusting agent is selected from [[a]] the group consisting of a quaternary amine, an inorganic base, and any combination thereof.

141. (New) The combination of claim 118, wherein the suspension agent is selected from the group consisting of an organic acid, surfactant, ethyl carbonate, aluminum oxide, hydrous sodium lithium magnesium silicate, ammonium polymethacrylate, and a second abrasive.

142. (New) The combination of claim 141, wherein the organic acid is succinic acid.

143. (New) The combination of claim 141, wherein the second abrasive is silica.